

# National Committee on Uniform Traffic Control Devices

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## National Committee on Uniform Traffic Control Devices (NCUTCD) Recommended Changes to Proposed Text for 11<sup>th</sup> Edition of the MUTCD Docket Number: FHWA-2020-0001

6 **Federal Register Item Number:** 553-557

7 **NPA MUTCD Section Number:** Section 8C.01-8C.06

8 **Legend:** Base text shown in proposal is the NPA “clean” proposed text.

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- 10 • [NCUTCD recommendation for text to be added in final rule.](#)
  - 11 • ~~NCUTCD recommendation for text to be deleted in final rule.~~
  - 12 • [NCUTCD recommendation for text to be moved/relocated in final rule.](#)
  - 13 • NPA text that was not previously approved by NCUTCD but is now approved.
  - 14 • Explanatory note: [\[Note that explains purpose of recommended change.\]](#)

15 The following pages present NCUTCD recommendations for changes to the MUTCD NPA  
16 proposed text, tables, and figures for Chapter 8B. Below is a short summary of the NCUTCD  
17 position for each section of this chapter. A more detailed summary is provided at the beginning  
18 of each section.

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- 20 • NPA #553: Section 8C.01: NCUTCD agrees with NPA content.
  - 21 • NPA #554: Section 8C.02: NCUTCD agrees with NPA content.
  - 22 • NPA #555: Section 8C.03: NCUTCD agrees with NPA content.
  - 23 • NPA #556: Section 8C.04: NCUTCD agrees with NPA content.
  - 24 • NPA #556: Section 8C.05: Changes recommended based on Council action in spring 2021.
  - 25 • NPA #557: Section 8C.06: Changes recommended based on Council action in spring 2021.
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28 **Section 8C.01 Comments:** NCUTCD agrees with 8C.01 as presented in the NPA.

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### 30 Section 8C.01 Purpose and Application

31 Support:

32 Passive traffic control systems, consisting of signs and pavement markings only, identify and  
33 direct attention to the location of a grade crossing and advise road users to reduce their speed or  
34 stop at the grade crossing as necessary in order to yield to any rail traffic occupying, or  
35 approaching and in proximity to, the grade crossing.

36 Signs and markings regulate, warn, and guide the road users so that they, as well as LRT  
37 vehicle operators on mixed-use alignments, can take appropriate action when approaching a  
38 grade crossing.

39 Unless otherwise provided in this Chapter, the provisions of Part 3 are applicable to the  
40 design and location of pavement markings at grade crossings.

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43 **Section 8C.02 Comments: NCUTCD agrees with 8C.02 as presented in the NPA.**  
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45 **Section 8C.02 Pavement Markings**

46 **Standard:**

47 **Except as provided in Paragraphs 2 and 3, pavement markings shall be placed in each**  
48 **approach lane on all paved approaches to highway-rail grade crossings where signals or**  
49 **automatic gates are located, and at all other grade crossings where the posted or statutory**  
50 **highway speed is 40 mph or higher.**

51 **Pavement markings shall not be required at highway-rail grade crossings where the**  
52 **posted or statutory highway speed is less than 40 mph if an engineering study indicates that**  
53 **other installed devices provide suitable warning and control.**

54 **Pavement markings shall not be required at highway-rail grade crossings in urban**  
55 **areas if an engineering study indicates that other installed devices provide suitable warning**  
56 **and control.**

57 **Pavement markings shall be placed in each approach lane on all paved approaches to**  
58 **highway-LRT grade crossings where a Crossbuck sign is placed at the grade crossing.**

59 **If pavement markings are used on a multi-lane approach to a grade crossing, identical**  
60 **markings shall be placed in each approach lane that crosses the tracks.**

61 **All grade crossing pavement markings shall be retroreflective white. All other**  
62 **markings shall be in accordance with Part 3.**

63 **On paved roadways, pavement markings in advance of a grade crossing shall consist of**  
64 **an X, the letters RR, a no-passing zone marking (on two-lane, two-way highways with**  
65 **center line markings in compliance with Section 3B.01), and certain transverse lines as**  
66 **shown with detailed dimensions in Figures 8C-1 and 8C-2.**

67 *Guidance:*

68 *When pavement markings are used, a portion of the X symbol should be directly opposite the*  
69 *Grade Crossing Advance Warning sign.*

70 *Option:*

71 *When justified by engineering judgment, supplemental pavement marking symbol(s) may be*  
72 *placed between the Grade Crossing Advance Warning sign and the grade crossing.*

73 *Guidance:*

74 *If supplemental pavement marking symbol(s) are placed between the Grade Crossing*  
75 *Advance Warning sign and the grade crossing, the downstream transverse line should be at least*  
76 *50 feet upstream from the stop or yield line at the grade crossing.*  
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79 **Section 8C.03 Comments: NCUTCD agrees with 8C.03 as presented in the NPA.**  
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81 **Section 8C.03 Stop and Yield Lines**

82 *Guidance:*

83 *On paved roadway approaches to passive grade crossings where a STOP sign is installed in*  
84 *conjunction with the Crossbuck sign, a stop line should be installed to indicate the point behind*  
85 *which highway vehicles are required to stop or as near to that point as practical.*

86 *Option:*

87 *On paved roadway approaches to passive grade crossings where a YIELD sign is installed in*  
88 *conjunction with the Crossbuck sign, a yield line (see Section 3B.19) or a stop line may be*  
89 *installed to indicate the point behind which highway vehicles are required to yield or stop or as*  
90 *near to that point as practical.*

91 *Guidance:*

92 *If a yield line (see Figure 3B-16) or stop line is used at a passive grade crossing, it should be*  
93 *a transverse line at a right angle to the traveled way and should be placed no closer than 15 feet*  
94 *in advance of the nearest rail.*

95 **Standard:**

96 **On paved roadways at grade crossings that are equipped with active control devices**  
97 **such as flashing-light signals, automatic gates, or traffic control signals, a stop line (see**  
98 **Section 3B.19) shall be installed to indicate the point behind which highway vehicles are or**  
99 **might be required to stop.**

100 *Guidance:*

101 *If a stop line is used at an active grade crossing where road users are controlled by flashing-*  
102 *light signals, it should be a transverse line at a right angle to the traveled way and should be*  
103 *placed approximately 8 feet in advance of the flashing-light signals or automatic gate (if*  
104 *present), whichever is further from the track(s), but no closer than 15 feet in advance of the*  
105 *nearest rail (see Figure 8C-1).*

106 *If a stop line is used at an active grade crossing where road users are controlled by a traffic*  
107 *control signal, it should be a transverse line at a right angle to the traveled way and should be*  
108 *placed no closer than 15 feet in advance of the nearest rail.*

109 **Standard:**

110 **If a stop line is used at an active grade crossing where road users are controlled by a**  
111 **traffic control signal, it shall be placed such that the lateral and longitudinal positions of**  
112 **the signal faces for the approach comply with the provisions of Sections 4D.06 and 4D.07.**

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114 **Section 8C.04 Comments: NCUTCD agrees with 8C.04 as presented in the NPA.**  
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116 **Section 8C.04 Lane-Use Arrow Markings**

117 **Standard:**

118 **Lane-use arrow markings (see Section 3B.23) that indicate that a turning movement**  
119 **must be made or is permitted to be made from a lane that crosses a grade crossing shall not**  
120 **be placed between the stop line for the grade crossing and the track(s).**

121 *Guidance:*

122 *Lane-use arrow markings that indicate that a turning movement must be made or is*  
123 *permitted to be made from a lane that crosses a grade crossing should not be placed less than*  
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125 100 feet upstream from the stop line for the grade crossing or less than 20 feet beyond the  
126 farthest rail.

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129 **Section 8C.05 Comments:** NCUTCD recommends changes to Standard, Guidance, and Option  
130 statements in 8C.05 to replace “lane lines” with “center lines” because the extension of center  
131 lines through grade crossings is more appropriate than extending lane lines to prevent drivers  
132 from mistakenly turning onto the tracks. NCUTCD also recommends changes to add a Guidance  
133 statement because lines or markers through the grade crossing may be disturbed by maintenance  
134 activities and the adjustment of the lines and markers should be coordinated between the road  
135 authority and the railroad or transit agency. NCUTCD also recommends changes to the Guidance  
136 statement and the addition of an Option statement about tubular markers to delete the 6-foot  
137 clearance dimension because this is consistent with Section 8D.01 and because railroads and  
138 transit agencies have varied clearance requirements, and to allow shorter tubular markers where  
139 they are installed closer to the rails.

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141 **Section 8C.05 Edge Lines, Center Lines, Lane Lines, Raised Pavement Markers, and**  
142 **Tubular Markers**

143 *Guidance:*

144 *Except as provided in Paragraph 2, if edge lines (see Section 3B.09) ~~or lane lines (see~~*  
145 *~~Section 3B.06)~~ or center lines (see Section 3B.01) are used on an approach to a grade crossing,*  
146 *the edge lines and center lines ~~and lane lines~~ should extend up to and across the track(s) to*  
147 *reduce the likelihood that road users might inadvertently turn into the track area. (remove the*  
148 *references to lane lines and replace with center lines)*

149 *If crossing surface maintenance or approach roadway maintenance is required or performed*  
150 *which alters the markings, the removal or replacement of the markings, raised pavement*  
151 *markers and/or tubular markers should be coordinated between the road authority and the*  
152 *railroad or transit agency. (add Guidance statement to clarify the need for coordination if*  
153 *markings are disturbed)*

154 *Option:*

155 The edge lines and center lines ~~and lane lines~~ may be omitted from the highway surface at a  
156 grade crossing if the railroad or transit agency determines that the surface cannot retain the  
157 application of the edge line or lane line marking. (remove the references to lane lines and replace  
158 with center lines)

159 If recommended by a Diagnostic Team, raised pavement markers (see Section 3B.16) may be  
160 used to supplement the edge lines or center ~~lane~~ lines that extend up to and across the track(s).  
161 Federal Register Number 556: Remove references to lane lines and replace with center lines.  
162 (remove the references to lane lines and replace with center lines)

163 If recommended by a Diagnostic Team, tubular markers (see Section 3I.01) may be used to  
164 supplement the edge lines that extend up to and across the track(s).

165 *Guidance:*

166 *Tubular markers should ~~not~~ be installed in accordance with railroad or transit agency and*  
167 *regulatory authority (if applicable) clearance requirements. ~~within 6 feet of any rail.~~ (change to*  
168 *be consistent with Section 8D.01)*

169 Option:  
170 Shorter tubular markers may be used where they are installed closer to rails. (add Option  
171 statement to allow shorter tubular markers which could be used between tracks)

172 **Standard:**  
173 The color under both daytime and nighttime conditions of raised pavement markers or  
174 tubular markers that are used at a grade crossing shall be the same color as the edge line or  
175 center lane line that they supplement. (remove the reference to lane line and replace with  
176 center line)

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179 **Section 8C.06 Comments:** NCUTCD recommends changes to Guidance statements in 8C.06 to  
180 delete the 6-foot clearance requirement because this is consistent with Section 8D.01 and  
181 because railroads and transit agencies have varied clearance requirements.

### 183 Section 8C.06 Dynamic Envelope Markings

184 Option:  
185 Dynamic envelope markings may be installed at a grade crossing to mark the edges of the  
186 train dynamic envelope.

187 **Standard:**  
188 If used, pavement markings for indicating the dynamic envelope shall comply with the  
189 provisions of Part 3 and shall be a solid white line not less than 4 inches nor greater than 24  
190 inches in width or contrasting pavement color (see Section 3A.03 and Chapter 3H) and/or  
191 contrasting pavement texture.

192 *Guidance:*  
193 If a 4-inch normal solid white line is used to convey the dynamic envelope, the line should be  
194 placed completely outside of the dynamic envelope. If used, dynamic envelope pavement  
195 markings should be placed ~~at a distance 6 feet from~~ parallel to the nearest rail in accordance  
196 with unless the operating railroad company or LRT agency requirements standard advises  
197 otherwise. If used, dynamic envelope pavement markings should extend across the roadway as  
198 shown in Figure 8C-3. Dynamic envelope pavement markings should not be placed  
199 perpendicular to the roadway at skewed grade crossings. (change to be consistent with Section  
200 8D.01)

201 Option:  
202 If 4-inch normal solid white lines are used to indicate the dynamic envelope, white cross-  
203 hatching lines may also be placed on the highway pavement within the dynamic envelope as a  
204 supplement to, but not as a substitute for, the 4-inch normal solid white lines. White cross-  
205 hatching lines (see Section 3B.26 Do Not Block intersection markings) may also be placed on  
206 the pavement to mark areas adjacent to the dynamic envelope where vehicles are not intended to  
207 stop or stand ~~as shown in Figure 8C-4~~. (delete Figure 8C-4)

208 In semi-exclusive LRT alignments, the dynamic envelope markings may be along the LRT  
209 trackway between intersections where the trackway is immediately adjacent to travel lanes and  
210 no physical barrier is present.

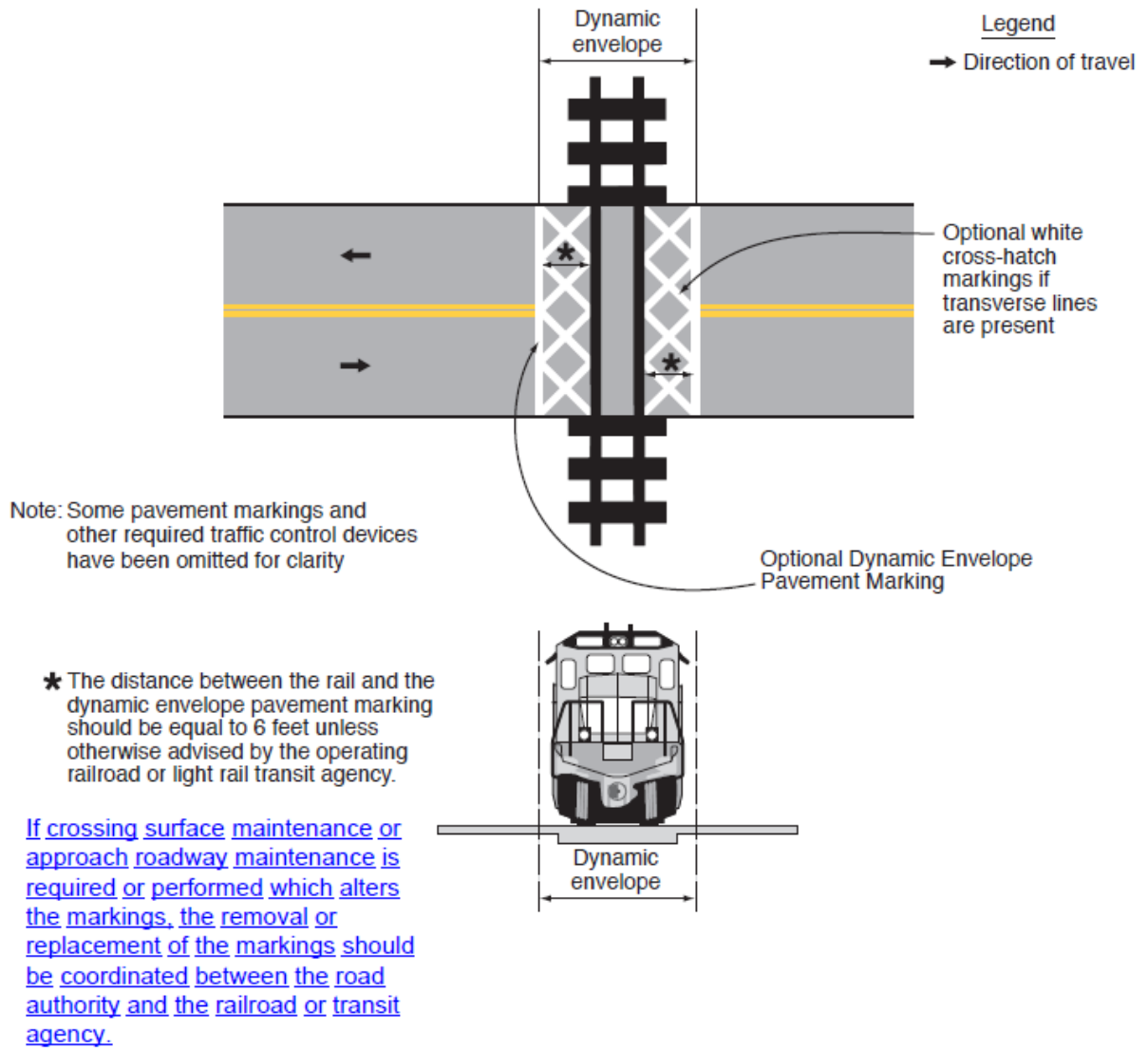
211 In mixed-use LRT alignments, the dynamic envelope markings may be continuous between  
212 intersections (see Figure 8C-5).

213 In mixed-use LRT alignments, pavement markings for adjacent travel or parking lanes may  
214 be used instead of dynamic envelope markings if the lines are outside the dynamic envelope.

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NCUTCD agrees with Figure 8C-3 as presented in the NPA, but recommends adding a note consistent with the recommended text changes in Section 8C.05 because the markings on the crossing surface may be disturbed by maintenance activities and the adjustment of the markings should be coordinated between the road authority and the railroad or transit agency.

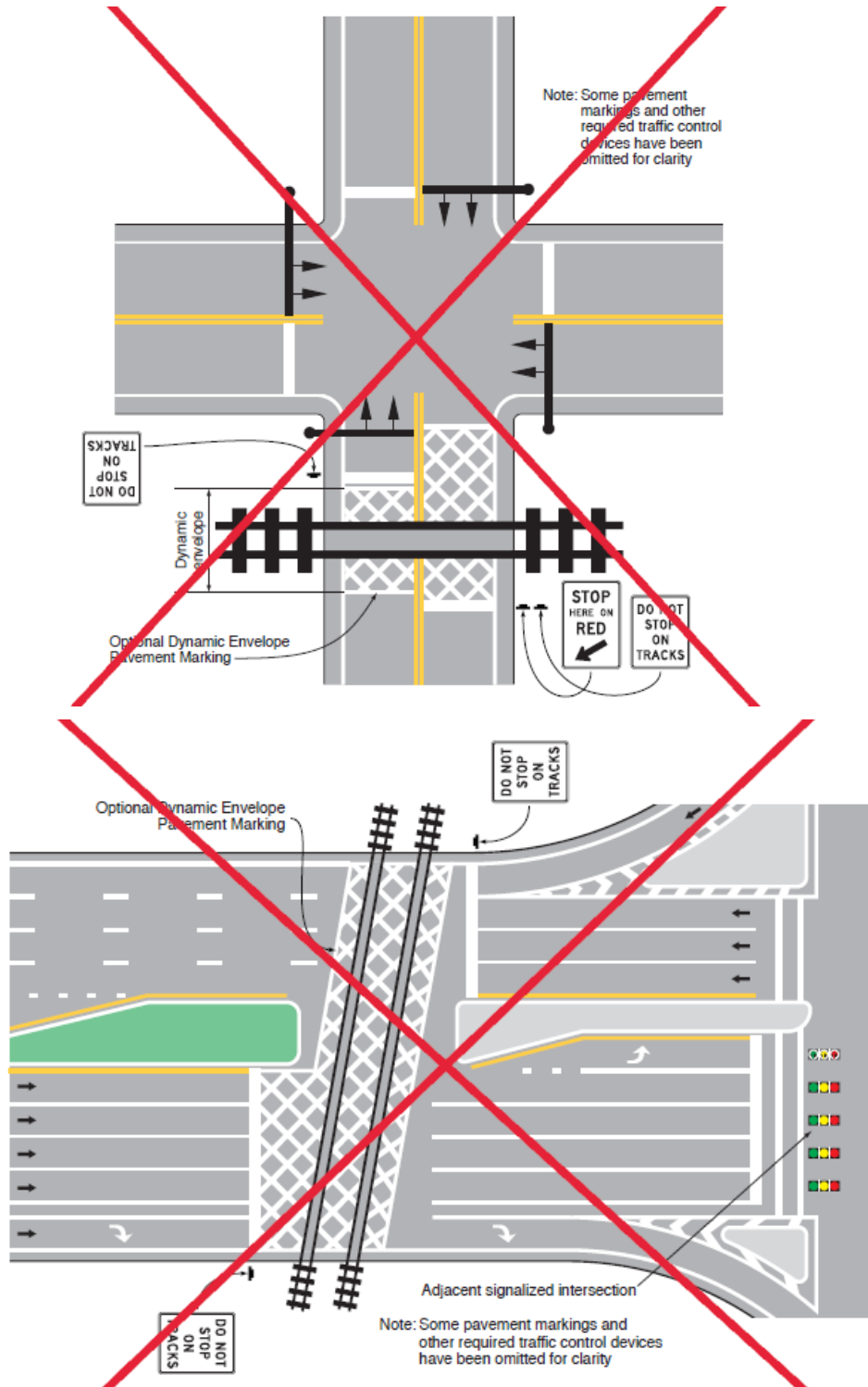
**Figure 8C-3. Example of Dynamic Envelope Pavement Markings at Grade Crossings**



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226 NCUTCD recommends deleting Figure 8C-4 because the markings to discourage drivers from  
227 stopping on the grade crossing are more clearly shown in Figure 8C-3 and described in Section  
228 3B.26.  
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230 **Figure 8C-4. Example of Do Not Block Pavement Markings at Grade Crossings**



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